

I 일반세션 논문초록

A seasonality of isotopic composition of water vapor (δD , 850-500 hPa) observed from space over Jeju Island, Korea

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[논문초록]

We examine the seasonal variations of isotopic composition of water vapor in the lower troposphere (850-500 hPa) to relate those of precipitation and groundwater using satellite observations from the Aura Tropospheric Emission Spectrometer (TES) over the volcanic island of Jeju, Korea. To better understand the seasonal variations of isotopic composition of water vapor, we ran an isotope enabled general circulation model (IsoGSM) and performed 120-hr reverse-calculated trajectories for air parcels corresponding to the TES observations. The isotopic composition of precipitation by previous studies and the model results shows winter-enriched, while summer-enriched water vapor isotope is observed by the TES observations, which may require a validation campaign using in-situ measurements or continuous monitoring of water vapor isotopes around Jeju island.

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